

Chapter A1: Introduction and Overview

INTRODUCTION

EPA is promulgating regulations implementing Section 316(b) of the Clean Water Act (CWA) for existing facilities with a design cooling water intake flow of 50 million gallons per day (MGD) or greater (33 U.S.C. 1326(b)). The Final Section 316(b) Phase II Existing Facilities Rule establishes national technology-based performance requirements applicable to the location, design, construction, and capacity of cooling water intake structures (CWIS) at existing facilities. The final national requirements establish the best technology available (BTA) to minimize the adverse environmental impact (AEI) associated with the use of these structures. CWIS may cause AEI through several means, including impingement (where fish and other aquatic life are trapped on equipment at the entrance to CWIS) and entrainment (where aquatic organisms, eggs, and larvae are taken into the cooling system, passed through the heat exchanger, and then discharged back into the source water body).

CHAPTER CONTENTS

A1-1 Summary of the Final Rule	A1-1
A1-2 Summary of Alternative Regulatory Options ...	A1-1
A1-3 Compliance Responses of the Final Rule	A1-1
A1-4 Organization of the EBA Report	A1-2
References	A1-4

A1-1 SUMMARY OF THE FINAL RULE

The Final Section 316(b) Phase II Existing Facilities Rule establishes national standards applicable to the location, design, construction, and capacity of CWIS at Phase II existing facilities to minimize AEI. The requirements of the final Phase II rule reflect the BTA for minimizing AEI associated with the CWIS based primarily on source water body type and the amount of cooling water withdrawn by a facility. For information on performance standards and compliance alternatives, please refer to the preamble of today's rule.

A1-2 SUMMARY OF ALTERNATIVE REGULATORY OPTIONS

For the final rule analysis, EPA did not consider any new alternative regulatory options other than those already analyzed for the proposed rule or the Notice of Data Availability. For a summary of previously considered alternative regulatory options, please refer to Chapter A1-4 of the Economic and Benefits Analysis (EBA) document in support of the proposed rule (U.S. EPA, 2002).

A1-3 COMPLIANCE RESPONSES OF THE FINAL RULE

Table A1-1 shows compliance response assumptions for the final rule based on each facility's current technologies installed, capacity utilization, waterbody type, annual intake flow, and design intake flow as a percent of source waterbody mean annual flow. The table shows that 149 of the 554 facilities are expected to install impingement controls; 205 are expected to install impingement and entrainment controls; and 200 are expected to install no new technologies in response to the final Phase II rule. Of the 200 facilities with no compliance action, 75 already meet the compliance requirements of the final rule because they already have a recirculating system.

Table A1-1: Number of Facilities by Waterbody Type and Compliance Assumption

Facility Waterbody Type	Impingement Controls Only	I&E Controls	No Action	Total	Recirculating System in Baseline (no action)
Estuaries, Tidal Rivers, and Oceans	31	69	35	136	3
Great Lakes	1	32	24	57	4
Freshwater Streams and Rivers	48	103	96	247	42
Freshwater Lakes and Reservoirs	68	0	46	114	26
Total	149	205	200	554	75

Source: U.S. EPA analysis, 2004.

A1-4 ORGANIZATION OF THE EBA REPORT

The *Economic and Benefits Analysis for the Final Section 316(b) Phase II Existing Facilities Rule* (EBA) assesses the economic impacts and benefits of the final Phase II rule. The EBA consists of four parts. It is organized as follows:

PART A: BACKGROUND INFORMATION

- ▶ **Chapter A1: Introduction and Overview** presents the scope and key definitions of the final rule.
- ▶ **Chapter A2: The Need for Section 316(b) Regulation** provides a brief discussion of the industry sectors and facilities affected by this regulation, discusses the environmental impacts from operating CWIS, and explains the need for this regulatory effort.
- ▶ **Chapter A3: Profile of the Electric Power Industry** presents a profile of the electric power market and the existing utility and nonutility steam electric power generating facilities analyzed for this regulatory effort.

PART B: COSTS AND ECONOMIC IMPACTS

- ▶ **Chapter B1: Summary of Compliance Costs** summarizes the unit costs of compliance with the final rule and alternative regulatory options, presents EPA's assessment of compliance years, and presents the national cost of the final rule.
- ▶ **Chapter B2: Cost Impact Analysis** presents an assessment of the magnitude of compliance costs with the final Phase II rule, including a cost-to-revenue analysis at the facility and firm levels, an analysis of compliance costs per household at the North American Electric Reliability Council (NERC) level, and an analysis of compliance costs relative to electricity price projections, also at the NERC level.
- ▶ **Chapter B3: Electricity Market Model Analysis** presents an analysis of the final rule using an integrated electricity market model. The chapter discusses potential energy effects of the final Phase II rule at the NERC region and national levels, and presents facility-level impacts.
- ▶ **Chapter B4: Regulatory Flexibility Analysis** presents EPA's estimates of small business impacts from the final Phase II rule.
- ▶ **Chapter B5: UMRA Analysis** outlines the requirements for analysis under the Unfunded Mandates Reform Act and presents the results of the analysis for this final rule.
- ▶ **Chapter B6: Other Administrative Requirements** presents several other analyses in support of the final Phase II rule. These analyses address the requirements of Executive Orders and Acts applicable to this rule.

PART C: NATIONAL BENEFITS

- ▶ **Chapter C1: Regional Approach** provides an overview of the regional study approach and a map of each study region.
- ▶ **Chapter C2: Summary of Current Losses Due to I&E** summarizes, for each regional study, the estimates of biological losses under current conditions and presents the estimated value of these losses. The chapter includes regional results and national totals.
- ▶ **Chapter C3: Monetized Benefits** presents the expected national reductions in I&E under the final rule and applies these reductions to the national baseline losses reported in Chapter C2 to obtain an estimate of national benefits attributable to section 316(b) Phase II regulation. The chapter includes regional results and national totals.

PART D: NATIONAL BENEFIT-COST ANALYSIS

- ▶ **Chapter D1: Comparison of Costs and Benefits** summarizes total private costs, develops social costs, and compares the final rule's total social costs and total benefits at the national level. The chapter also presents comparisons of benefits and costs at the regional level.

REFERENCES

Clean Water Act (CWA). 33 U.S.C. 1251 et seq.

U.S. Environmental Protection Agency (U.S. EPA). 2002. *Economic and Benefits Analysis for the Proposed Section 316(b) Phase II Existing Facilities Rule*. EPA-821-R-02-001. April 2002. DCN 4-0002. Available at <http://www.epa.gov/ost/316b/econbenefits>.

U.S. Environmental Protection Agency (U.S. EPA). 2000. Section 316(b) Industry Survey. *Detailed Industry Questionnaire: Phase II Cooling Water Intake Structures* and *Industry Short Technical Questionnaire: Phase II Cooling Water Intake Structures*, January, 2000 (OMB Control Number 2040-0213). *Industry Screener Questionnaire: Phase I Cooling Water Intake Structures*, January, 1999 (OMB Control Number 2040-0203).